



Safety Data Sheet

This safety data sheet complies with the requirements of:
JIS Z 7253:2019

Revision Date 2023-09-18
Revision Number 1

1. Identification

Product Name 10X T7 RNA Polymerase Buffer
Product Code SD8141
Registration number No information available
Details of the supplier of the safety data sheet

Supplier

Japan:

Takara Bio Inc.
Nojihigashi 7-4-38
Kusatsu, Shiga 525-0058, Japan
Phone: +81.77.565.6972
Web: www.takara-bio.com

China:

Takara Biomedical Technology (Beijing) Co., Ltd.
Life Science Park, 22 KeXueYuan Road, Changping District,
Beijing 102206, China
Phone: +86.10.8072.0980
Web: www.takarabiomed.com.cn

Emergency telephone number In case of emergency, call PERS (Professional Emergency Resource Services)
1-800-633-8253 (US) or 801-629-0667 (international).

Recommended use of the chemical and restrictions on use

Identified uses For research use only. Not for use in diagnostic procedures

Restrictions on use No information available

2. Hazard(s) identification

GHS Classification

Not a hazardous substance or mixture according to the Globally Harmonized System (GHS)

Acute toxicity - Oral	Not classified
Acute toxicity - Dermal	Not classified
Acute toxicity - Inhalation (Gases)	Classification not applicable
Acute toxicity - Inhalation (Vapors)	Classification not possible
Acute toxicity - Inhalation (Dusts/Mists)	Classification not possible
Skin corrosion/irritation	Classification not possible
Serious eye damage/eye irritation	Classification not possible
Respiratory sensitization	Classification not possible
Skin sensitization	Classification not possible
Germ cell mutagenicity	Classification not possible
Carcinogenicity	Classification not possible
Reproductive toxicity	Classification not possible
Effects on or via lactation	No effects on or via lactation
Specific target organ toxicity (single exposure)	Classification not possible
Specific target organ toxicity (repeated exposure)	Classification not possible
Aspiration hazard	Not classified
Acute aquatic toxicity	Classification not possible
Chronic aquatic toxicity	Not classified
Ozone	Classification not possible

GHS label elements**Hazard Statements**

Not a hazardous substance or mixture according to the Globally Harmonized System (GHS)

Prevention

- Not applicable

Response

- Not applicable

Storage

- Not applicable

Disposal

- Not applicable

Other hazards

No information available.

3. Composition/information on ingredients

Pure substance/mixture**Mixture**

Chemical name	CAS No	Weight-%	ENCS Inventory	ENCS Number	ISHL Inventory	ISHL No
Magnesium chloride	7786-30-3	1 - 5	Existing	(1)-233	Existing	-
Tween 20	9005-64-5	0.1 - 1	Existing	(8)-55	Existing	-

Until March 31, 2023 Pollutant Release and Transfer Register (PRTR)

Not applicable

After April 1, 2023 Pollutant Release and Transfer Register (PRTR)

Not applicable

Industrial Safety and Health Law**ISHL Notifiable Substances**

Not applicable

Harmful Substances Whose Names Are to be Indicated on the Label

Not applicable

Poisonous and Deleterious Substances Control Law

Not applicable

4. First-aid measures

In case of inhalation

Remove to fresh air.

In case of skin contact

Wash skin with soap and water.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

In case of ingestion

Rinse mouth.

Most important symptoms/effects, acute and delayed

No information available.

Note to physicians

Treat symptomatically.

5. Fire-fighting measures

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.
Specific hazards arising from the chemical	No information available.
Special Extinguishing Media Large Fire	Cool drums with water spray. CAUTION: Use of water spray when fighting fire may be inefficient.
Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Ensure adequate ventilation.
For emergency responders	Use personal protection recommended in Section 8.
Environmental precautions	See Section 12 for additional Ecological Information.
Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Pick up and transfer to properly labeled containers.
Prevention of secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.

7. Handling and storage

<u>Handling</u>	
Advice on safe handling	Handle in accordance with good industrial hygiene and safety practice.
<u>Storage</u>	
Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place.

8. Exposure controls/personal protection

Engineering controls	Showers Eyewash stations Ventilation systems.
Exposure guidelines	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
Biological occupational exposure limits	This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies
Environmental exposure controls	No information available.
<u>Personal Protective Equipment</u>	
Respiratory protection	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
Eye/face protection	No special protective equipment required.

Skin and body protection No special protective equipment required.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Clear, colorless
Physical state	Liquid
Color	Colorless
Odor	Unpleasant
Odor Threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Melting point / freezing point	No data available	No information available
Boiling point/boiling range (°C)	No data available	No information available
Flammability (solid, gas)	No data available	No information available
Upper/lower flammability or explosive limits		
Upper flammability limit:	No data available	
Lower flammability limit:	No data available	
Flash point	No data available	ASTM D 56
Evaporation Rate	No data available	No information available
Autoignition temperature	No data available	No information available
Decomposition temperature	No data available	No information available
pH	No data available	No information available
Viscosity		
Kinematic viscosity	No data available	No information available
Dynamic Viscosity	No data available	No information available
Water solubility	No data available	No information available
Solubility in other solvents	No data available	No information available
Partition Coefficient (n-octanol/water)	No data available	No information available
Vapor pressure	No data available	No information available
Vapor density	No data available	No information available
Relative density	No data available	No information available
Particle characteristics		
Particle Size	No data available	Not applicable
Particle Size Distribution	No data available	Not applicable

Other information

Explosive properties	No information available
Oxidizing properties	No information available

10. Stability and reactivity

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Incompatible materials	None known based on information supplied.
Hazardous Decomposition Products	None known based on information supplied.
Explosion Data	
Sensitivity to static discharge	None.
Sensitivity to mechanical impact	None.

11. Toxicological information

Acute toxicity

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 42,535.40 mg/kg
ATEmix (dermal) 32,146.10 mg/kg

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Magnesium chloride	= 2800 mg/kg (Rat)	> 2000 mg/kg (Rat)	-
Tween 20	= 37000 mg/kg (Rat)	-	> 5.1 mg/L (Rat) 4 h

Abbreviations and acronyms

Rat: Rat

Symptoms	No information available.
Product Information	
Ingestion	Specific test data for the substance or mixture is not available.
Inhalation	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin corrosion/irritation	Based on available data, the classification criteria are not met. Classification not possible.
Serious eye damage/eye irritation	Based on available data, the classification criteria are not met. Classification not possible.
Respiratory or skin sensitization	Based on available data, the classification criteria are not met. Classification not possible.
Germ cell mutagenicity	Based on available data, the classification criteria are not met. Classification not possible.
Carcinogenicity	Based on available data, the classification criteria are not met. Classification not possible.
Reproductive toxicity	Based on available data, the classification criteria are not met. Classification not possible.
STOT - single exposure	Based on available data, the classification criteria are not met. Classification not possible.
STOT - repeated exposure	Based on available data, the classification criteria are not met. Classification not possible.
Aspiration hazard	Based on available data, the classification criteria are not met. Not classified.

12. Ecological information

Ecotoxicity Classification not possible.

Percentage for unknown hazards 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Crustacea
Magnesium chloride	EC50: >82.7mg/L (72h, Pseudokirchneriella subcapitata)	LC50: 1970 - 3880mg/L (96h, Pimephales promelas)	EC50: =140mg/L (48h, Daphnia magna)

Persistence and degradability No information available.

Bioaccumulation No information available.

Hazardous to the ozone layer Classification not possible. Based on available data, the classification criteria are not met.
Other adverse effects No information available.

13. Disposal considerations

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

14. Transport information

IMDG Not regulated

ADR Not regulated

IATA Not regulated

15. Regulatory information

National regulations

Until March 31, 2023 Pollutant Release and Transfer Register (PRTR)

Not applicable

After April 1, 2023 Pollutant Release and Transfer Register (PRTR)

Not applicable

Industrial Safety and Health Law

Not applicable

ISHL Notifiable Substances

Not applicable

Poisonous and Deleterious Substances Control Law

Not applicable

Fire Service Law:

Not applicable

Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. (CSCL)

The table below indicates ingredients above the cut-off threshold considered as relevant which are listed

Chemical name	CAS No	Chemical Substances Control Law
Tween 20	9005-64-5	Priority assessment chemical substance

Act on Prevention of Marine Pollution and Maritime Disaster

Not applicable

International Regulations

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

International Inventories

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

16. Other information

Revision Date 2023-09-18
Revision Note No information available.

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	Time weighted average	Ceiling	Maximum limit value
*	Skin designation	+	Sensitizers

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
 U.S. Environmental Protection Agency ChemView Database
 European Chemicals Agency
 European Food Safety Authority (EFSA)
 EPA (Environmental Protection Agency)
 Acute Exposure Guideline Level(s) (AEGL(s))
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
 U.S. Environmental Protection Agency High Production Volume Chemicals
 Food Research Journal
 Hazardous Substance Database
 International Uniform Chemical Information Database (IUCLID)
 Japan GHS Classification
 Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
 NIOSH (National Institute for Occupational Safety and Health)
 National Library of Medicine's ChemID Plus (NLM CIP)
 National Library of Medicine's PubMed database (NLM PUBMED)
 National Toxicology Program (NTP)
 New Zealand's Chemical Classification and Information Database (CCID)
 Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
 Organization for Economic Co-operation and Development High Production Volume Chemicals Program
 Organization for Economic Co-operation and Development Screening Information Data Set
 World Health Organization

Disclaimer

This SDS complies with the requirements of JIS Z 7253:2019 (Japan). The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet